

## **REMARKS**

Claims 1-12 are pending in the application. Applicants have carefully considered the Examiner's rejections and offer the following remarks.

### **Rejections under 35 U.S.C. §103(a)**

Claims 1-12 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Pat. No. 4,079,028 to Emmons et al. (hereinafter "Emmons"). The Examiner maintains the rejection, indicating that it would have been obvious to a skilled artisan to pick and choose from the disclosure of Emmons to arrive at the claimed combination of ingredients. Applicants respectfully request reconsideration.

The present invention is directed to a water-soluble or water-dispersible polyurethane that includes the reaction product of a mixture of at least one polyether polyol and at least one urethane group-containing polyether polyol, at least one C<sub>8</sub>-C<sub>22</sub> monoisocyanate, at least one (cyclo)aliphatic and/or aromatic diisocyanate that includes isophorone diisocyanate, optionally at least one C<sub>8</sub>-C<sub>22</sub> monoalcohol, and optionally at least one polyisocyanate having an average functionality of > 2. The polyether polyol has an average functionality of ≥ 3. The urethane group-containing polyether polyol has an average functionality of ≥ 4. The starting NCO/OH equivalent ratio is between 0.5:1 to 1.2:1. The polyurethane has a softening point of from 10°C to 80°C.

Emmons discloses latex and other aqueous systems thickened by incorporation of a low molecular weight polyurethane characterized by at least three hydrophobic groups interconnected by hydrophilic polyether groups. The thickeners are prepared at 60°C in a solvent (toluene). At the end of the reaction, the product is isolated by evaporation.

Emmons discloses polymeric compounds in which the isocyanate-reactive component is used at an equivalent stoichiometric amount or at a stoichiometric excess. On the other hand, in the present invention a slight excess of isocyanate is always used, which is eliminated at the end of the preparation (see the examples in the specification).

Also, Emmons does not disclose or in any way suggest using isophorone diisocyanate (IPDI) as is required in the amended claims. Emmons only provides a general disclosure of organic polyisocyanates and a laundry list that does not include IPDI.

However, "a 'laundry list' disclosure of every possible moiety does not constitute a written description of every species in a genus because it would not 'reasonably lead those skilled in the art to any particular species.'" MPEP § 2163 quoting Fujikawa v. Wattanasin, 93 F.3d 1559, 1571 (Fed. Cir. 1996).

IPDI is essential to the present invention to provide positive rheological properties (see examples 2, 3, 5, and 6 on pages 12-13 of the specification).

Further, Applicants submit herewith a Declaration Under 37 C.F.R. § 1.132 by one of the present inventors, Dr. Frank Sauer. In his declaration, Dr. Sauer describes experiments that show that Isophorone isocyanate (IPDI) in combination with or without IPDA leads to improved rheological properties. This is not disclosed or suggested by Emmons.

More particularly, the comparative data clearly demonstrate that the claimed polyurethane is different from the products provided according to the disclosure of Emmons. The products according to the present invention demonstrate a much higher rheological effectiveness than the products obtained according to the disclosure of Emmons. Further, the data demonstrate that IPDI is essential in the present invention to obtain the desired superior rheological properties.

Thus, Emmons does not disclose or in any way suggest polyurethanes that includes the reaction product of a mixture of at least one polyether polyol and at least one urethane group-containing polyether polyol, at least one C<sub>8</sub>-C<sub>22</sub> monoisocyanate, at least one diisocyanate that includes isophorone diisocyanate.

Because Emmons does not disclose or in any way suggest using IPDI or the improved rheological efficiency obtained when IPDI is used in the present water-soluble or water-dispersible polyurethane, Emmons cannot render the present claims obvious. As such, the rejection of Claims 1-12 under 35 U.S.C. § 103(a) should be withdrawn.

### **Rejections under obviousness-type double patenting**

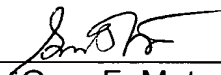
Claims 1-12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1-16 of copending application SN 10/091,960.

Applicants request the Examiner hold this rejection in abeyance until such time as Claims 1-16 of copending application SN 10/091,960 are issued in a patent or the present claims are allowed.

### **CONCLUSION**

Applicants submit that the instant application is in condition for allowance. Accordingly, reconsideration and a Notice of Allowance are respectfully requested for Claims 1-12. If the Examiner is of the opinion that the instant application is in condition for other than allowance, he is requested to contact the Applicants' agent at the telephone number given below so that additional changes to the claims may be discussed.

Respectfully submitted,

By   
\_\_\_\_\_  
Gary F. Matz  
Agent for Applicants  
Reg. No. 45,504

Bayer Polymers LLC  
100 Bayer Road  
Pittsburgh, Pennsylvania 15205-9741  
(412) 777-3897  
FACSIMILE PHONE NUMBER:  
(412) 777-3902  
/vjt/GFM6804response